

WHAT IS CLAIMED IS:

1. A fuel cap for installation and removal relative to a fuel tank filler neck having an upper surface, said fuel cap comprising:

an interior closure body including a lower portion adapted to be screwed into the filler neck, an upper portion, extending outward from the lower part and a flange extending outward from the upper part;

an elastic gasket surrounding the interior closure body and positioned beneath the flange;

wherein the gasket is formed such that upon rotation of the interior closure body in a cap installation direction, the lower portion engages the filler neck and the gasket is compressed to effectuate a sealing contact between at least one of the gasket and the upper surface and the gasket and the flange and upon rotation of the body in a cap removal direction, at least one of the at least one sealing contacts between the gasket and the upper surface and the gasket and the flange remains until the body is rotated more than approximately 20°.

2. The fuel cap of claim 1 wherein the gasket comprises an upper circular lip and a lower circular lip, wherein the lips are joined together at their inner circumferences and diverge at their outer circumferences to provide a generally V-shaped cross-section.

3. The fuel cap of claim 2 wherein the junction at which the upper and lower lips join together has a radius between approximately 0.2 mm and 1 mm.

4. The fuel cap of claim 3 wherein the junction at which the upper and lower lips join together has a radius of approximately 0.5 mm.

5. The fuel cap of claim 2 wherein the upper and lower lips have a thickness between approximately 0.1 mm and 0.5 mm.

6. The fuel cap of claim 5 wherein the upper and lower lips have a thickness of approximately 0.2 mm.

7. The fuel cap of claim 2 wherein the thickness of the gasket at its outer circumference is approximately 1.1 to 1.5 times the thickness of the gasket in the area of the inner circumference.

8. The fuel cap of claim 7 wherein the thickness of the gasket at its outer circumference is approximately 1.2 times the thickness of the gasket in the area of the inner circumference.

9. The fuel cap of claim 1 wherein the gasket is manufactured from an elastic material with an elasticity of approximately 40 to 80 shore.

10. The fuel cap of claim 9 wherein the elasticity is approximately 60 shore.

11. The fuel cap of claim 1, wherein the gasket is made of FKM-Viton.

12. A fuel cap for closing a fuel tank filler neck having an upper surface, said fuel cap comprising:

an interior closure body including a lower portion adapted to be screwed into the filler neck and an upper portion extending outward from the lower part;

a spring surrounding the lower portion; and

a gasket surrounding the lower portion and positioned beneath the spring, wherein the spring biases the gasket downward relative to the upper portion.

13. The fuel cap of claim 12 wherein the spring is configured such that upon rotation of the interior closure body in a cap installation direction, the lower portion engages the filler neck and the gasket is compressed to effectuate a sealing contact between at least one of the gasket and the upper surface and the gasket and the upper portion and upon rotation of the body in a cap removal direction, at least one of the at least one sealing contacts between the gasket and the upper surface and the gasket and the upper portion remains until the body is rotated more than approximately 20°.

14. The fuel cap of claim 12 wherein the spring comprises a spiral spring wound around the upper portion.

15. The fuel cap of claim 12 further comprising a pressure part positioned between the spring and the gasket.

16. The fuel cap of claim 15 further comprising at least one path limiter coupled to the upper portion at one end and secured to the pressure part at the other end.

17. The fuel cap of claim 12 wherein the gasket is manufactured from an elastic material with an elasticity of approximately 40 to 80 shore and comprises an upper circular lip and a lower circular lip each with a thickness of between approximately 0.1 mm and 0.5 mm, wherein the lips join together at their inner circumferences to form a rounded junction point having a radius of between approximately 0.2 mm and 1 mm and diverge at their outer circumferences to provide a generally V-shaped cross-section, wherein the thickness of the gasket at its outer circumference is approximately 1.1 to 1.5 times the thickness of the gasket in the area of the inner circumference, wherein the combination of the spring and gasket are such that the degree of rotation of the body in the cap removal direction necessary to break the seal provided by the gasket is increased.

18. A fuel cap for installation and removal relative to a fuel tank filler neck having an upper surface, said fuel cap comprising:

an interior closure body adapted to engage the filler neck through rotation; and

means for effectuating a sealing contact between the closure body and the filler neck and maintaining the sealing contact through a degree rotation of the body in a cap removal direction up to at least approximately 20°.

19. The fuel cap of claim 18 wherein the means for effectuating a sealing contact and maintaining the sealing contact comprises a gasket surrounding the closure body, wherein the gasket is manufactured from an elastic material with an elasticity of approximately 40 to 80 shore and comprises an upper circular lip and a lower circular lip each with a thickness of between approximately 0.1 mm and 0.5 mm, wherein the lips join together at their inner

circumferences to form a rounded junction point having a radius of between approximately 0.2 mm and 1 mm and diverge at their outer circumferences to provide a generally V-shaped cross-section, wherein the thickness of the gasket at its outer circumference is approximately 1.1 to 1.5 times the thickness of the gasket in the area of the inner circumference.

20. The fuel cap of claim 18 wherein the means for effectuating a sealing contact and maintaining the sealing contact comprises:

a gasket surrounding the closure body; and

a spring surrounding the closure body and positioned above the gasket;

wherein the spring is configured to bias the gasket downward.

21. The fuel cap of claims 20 wherein the means for effectuating a sealing contact and maintaining the sealing contact further comprises a pressure part surrounding the closure body and positioned between the spring and the gasket.

22. A fuel cap for installation and removal relative to a fuel tank filler neck having an upper surface, said fuel cap comprising:

an interior closure body adapted to engage the filler neck through rotation; and

a gasket formed to effectuate a sealing contact between the closure body and the filler neck and maintain the sealing contact through a degree rotation of the body in a cap removal direction up to at least approximately 20°.

23. A fuel cap for installation and removal relative to a fuel tank filler neck having an upper surface, said fuel cap comprising:

an interior closure body adapted to engage the filler neck through rotation;

a gasket surrounding the closure body; and

a gasket biasing system configured to effectuate a sealing contact between the gasket and the filler neck and maintain the sealing contact through a degree rotation of the body in a cap removal direction up to at least approximately 20°.